

EXHIBIT 4

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION

WAPP TECH LIMITED PARTNERSHIP
and WAPP TECH CORP.,

Plaintiffs,

v.

BANK OF AMERICA CORP.,

Defendant.

Case No. 4:18-cv-00519-ALM

JURY TRIAL DEMANDED

**DEFENDANT'S NOTICE OF SERVICE OF
P.R. 3-3 INVALIDITY CONTENTIONS and P.R. 3-3 DOCUMENT PRODUCTION**

Pursuant to the Order Governing Proceedings (Dkt. #17) and Scheduling Order (Dkt. #29), Defendants hereby file this Notice confirming that counsel of record for Plaintiffs was served with Defendant's P.R. 3-3 Invalidity Contentions and P.R. 3-4 Document Production via electronic mail on December 20, 2019 in the above-referenced action.

Dated: December 23, 2019

By: /s/ Mark N. Reiter

Mark N. Reiter

Lead Attorney

Texas State Bar No. 16759900

mreiter@gibsondunn.com

Ashbey N. Morgan

Texas State Bar No. 24106339

anmorgan@gibsondunn.com

GIBSON, DUNN & CRUTCHER LLP

2001 Ross Avenue, Suite 2100

Dallas, TX 75201-6912

Telephone: 214.698.3100

Facsimile: 214.571.2907

Neema Jalali

njalali@gibsondunn.com

GIBSON, DUNN & CRUTCHER LLP

555 Mission Street, Suite 3000

San Francisco, CA 94105

Telephone: 415.393.8200

Facsimile: 415.374.8409

Attorneys for Defendants

CERTIFICATE OF SERVICE

I hereby certify that on December 23, 2019, the foregoing was electronically filed with the Clerk of the Court using the CM/ECF system, which will send a notice of electronic filing to CM/ECF participants in this case.

/s/ Mark N. Reiter

Mark N. Reiter

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DEFENDANT'S P.R. 3-3 INVALIDITY CONTENTIONS

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I. INTRODUCTION

Pursuant to P.R. 3-3 and the Scheduling Order (Dkt. #29), Defendants hereby provide these P.R. 3-3 Invalidity Contentions (“Invalidity Contentions”) to Plaintiffs Wapp Tech Limited Partnership and Wapp Tech Corp. (collectively, “Plaintiffs” or “Wapp”). These Invalidity Contentions are based on Defendants’ current knowledge and understanding of U.S. Patent No. 9,971,678 (the “‘678 Patent”), U.S. Patent No. 9,298,864 (the “‘864 Patent”) and U.S. Patent No. 8,924,192 (the “‘192 Patent”) (collectively, the “Asserted Patents”), and the prior art, along with Defendants’ understanding of Plaintiffs’ infringement allegations as set forth in Plaintiffs’ December 2, 2019 Infringement Contentions (the “Infringement Contentions”).¹ These Invalidity Contentions should not be construed as a waiver by Defendants of any objections to Plaintiffs’ Disclosure of Asserted Claims and Infringement Contentions or as an admission that the Disclosure of Asserted Claims and Infringement Contentions was adequate. Additionally, and as further explained below, where these Invalidity Contentions disclose that a prior art reference meets a claim limitation, such position may be based on Defendants’ understanding of Plaintiffs’ Infringement Contentions; Defendants do not necessarily agree that such interpretations are correct, have merit, or should be adopted.

Defendants’ investigation of the Asserted Patents, their file histories, and the prior art is ongoing,² and Defendants expressly reserve the right to supplement these Invalidity Contentions

¹ Plaintiffs revised their infringement contentions nearly one month after they were due to be served, and only eighteen days prior to the date these Invalidity Contentions were due. Accordingly, Defendants have not had sufficient time to thoroughly analyze Plaintiffs’ Infringement Contentions. Defendants thus offer these Invalidity Contentions based on their current understanding of Plaintiffs’ Infringement Contentions.

² Defendants have served third-party subpoenas on Ericsson Inc., Motorola Mobility LLC, Oracle America, Inc., Qualcomm Incorporated, Viavi Solutions Inc., International Business Machines Corporation, and Microsoft Corporation. While Defendants are still in the process of obtaining

based on further discovery and in a manner consistent with the Federal Rules of Civil Procedure, the Local Patent Rules for the Eastern District of Texas, and any Scheduling Order, or otherwise in accordance with any order or direction of this Court or agreement of the parties.

II. ASSERTED PATENT AND CLAIMS

Plaintiffs assert the following claims (with independent claims identified in **bold**): claims **1**–**3**, 26, **37**, and **45**–**50** of the '678 Patent; claims **1**–**3**, 8–**12**, **20**, and **29** of the '864 Patent, and claims **1**–**3** of the '192 Patent (collectively, the “Asserted Claim(s)”). Plaintiffs assert the same priority date for the Asserted Patents of June 10, 2005—the date on which U.S. Provisional Patent Application No. 60/689,101 was allegedly filed. Reference to an “asserted priority date” should not be construed to mean that Defendants agree that any of the Asserted Patents is in fact entitled to such priority date, or that Plaintiffs have provided proper notice as to their contentions for a priority date.

Wapp has not asserted an invention date prior to the filing of the provisional application, U.S. Patent Application No. 60/689,101. To the extent Plaintiffs later properly allege that the conception, reduction to practice, design, and development of each claimed invention occurred prior to June 10, 2005, Defendants reserve the right to supplement these Invalidity Contentions to address any such contention, including by identifying and/or charting additional prior art that may become relevant in view of such assertion. Likewise, to the extent Plaintiffs successfully establish an invention date before any of the prior art references relied on by Defendants, then those references serve as evidence of secondary considerations of obviousness, particularly, contemporaneous invention by others. To the extent Plaintiffs allege that any prior art relied on in these Invalidity Contentions does not actually qualify as prior art to the Asserted Patents,

the information sought in these subpoenas, they anticipate that these document productions and/or depositions may produce additional prior art.

Defendants reserve the right to rebut those allegations (*e.g.*, by demonstrating an earlier critical date for the challenged prior art and/or a later priority date and/or date of invention for a particular Asserted Claim). Defendants also reserve the right to rely on additional documents, information, and evidence to demonstrate public availability or public availability by a certain date of a prior art reference or to rebut any efforts by Plaintiffs to allege that any reference was not publicly available or publicly available by a certain date or otherwise available as prior art.

For purposes of these contentions, Defendants address only those claims specifically asserted by Plaintiffs. Defendants reserve the right to amend or supplement this disclosure as necessary in view of any changes or amendments made, for any reason, to Plaintiffs' infringement theories, infringement contentions, or Asserted Claims, including to Plaintiffs' asserted priority and/or invention date(s).

III. CLAIM CONSTRUCTION

To the extent that these Invalidity Contentions rely on or otherwise embody particular constructions of terms or phrases in the Asserted Claims, Defendants are not proposing any such constructions as proper constructions of those terms or phrases at this time. The Court has established separate deadlines for the parties' proposed claim constructions, and Defendants will disclose their proposed constructions accordingly.

Throughout the attached Exhibits, Defendants provide examples of where references disclose subject matter recited in preambles, without regard to whether the preambles are properly considered to be limitations of the Asserted Claims. Defendants reserve the right to argue, at the appropriate stage of this case, that the preambles are or are not limitations. Further, the fact that Defendants provide examples of any limitation does not mean that Defendants believe that the limitation is defined, or otherwise enabled, or comports with the requirements of the patent statute,

including, but not limited to, 35 U.S.C. § 112. Moreover, Defendants reserve the right to argue that certain claim elements of the Asserted Claims do not limit the scope of the Asserted Claims.

Nothing disclosed herein is an admission or acknowledgement that any of Defendants' products or services infringes any of the Asserted Claims. Defendants reserve the right to supplement, modify, or otherwise amend these Invalidity Contentions pursuant to the Local Patent Rules for the Eastern District of Texas, including, for example, based on the Court's claim construction rulings or opinions or the parties' positions or arguments taken in connection with the claim construction process. Moreover, Defendants reserve the right to rely on any disclosures in the accompanying P.R. 3-4(b) production as they believe necessary in view of positions Plaintiffs may take with respect to the scope and meaning of the Asserted Claims.³

IV. P.R. 3-3(a) – IDENTIFICATION OF PRIOR ART⁴

Pursuant to P.R. 3-3(a), an identification of prior art relied on by Defendants is attached as Appendix C. To the extent not otherwise listed, Defendants may also rely upon any other prior art produced to Plaintiffs, cited or referenced in these Invalidity Contentions and associated exhibits (including claim charts) and appendices, or cited or referenced in or on the Asserted Patents or their file histories.

V. P.R. 3-3(b) – ANTICIPATION AND OBVIOUSNESS

The exhibits to these Invalidity Contentions contain claim charts for the prior art references relied upon by Defendants, which show how those prior art references anticipate and/or render

³ Certain documents relevant to disclosures called for by P.R. 3-4(a) are publicly accessible at <http://admhelp.microfocus.com>. Further, Defendants understand that the supplier of the accused software products timely made the source code available for inspection to Plaintiffs. *See* D.I. 126 in 4:18-cv-00469-ALM.

⁴ Defendants also hereby identify any systems or products that embody the technology described in any patent or publication identified in these Invalidity Contentions. Defendants reserve the right to rely on any documents or other evidence regarding any such systems.

obvious the Asserted Claims. Obviousness combinations of the prior art references, as well as motivations to combine those references, are separately identified herein and in Appendices A and B1–B5, as explained below.

Defendants' reliance on each prior art reference identified throughout these Invalidity Contentions (and the exhibits and appendices hereto) includes the reference itself, anything incorporated by the reference, any system embodying the reference, and any testimony by those with knowledge of the reference, such as named authors and inventors.⁵ All such documents and information shall be considered one prior art reference to the extent they describe a single prior art system or solution, or the closely related work of a single prior art author. Defendants reserve the right to revise, amend, and/or supplement the information provided herein, including by identifying and relying on additional references, based on developments in the case, including, without limitation, based on changes in the asserted priority and/or invention date(s) of the Asserted Patent or Asserted Claims, newly discovered prior art, depositions of prior art witnesses, claim construction determinations, challenges by Plaintiffs to the authenticity or content of the prior art, and positions taken by Plaintiffs during the litigation. In particular, Defendants reserve the right to supplement these Invalidity Contentions as discovery reveals further information about prior use and/or prior public knowledge of products, methods, or systems that Defendants have reason to believe anticipate or render obvious one or more asserted claims. Defendants further reserve the right to identify and rely on additional prior art in Plaintiffs' possession, custody, or control that has not yet been produced or identified to Defendants, including prior art identified

⁵ For example, for each patent identified as a prior art reference in these Invalidity Contentions, Defendants reserve the right to rely on the patent itself and/or any system that practices or embodies the patent to demonstrate invalidity.

and/produced in prior litigations or in post-grant proceedings at the U.S. Patent and Trademark Office.

A. Primary References

The following prior art references (“primary references”), alone or in one of the combinations identified in Appendices A and B1–B5, render invalid one or more of the Asserted Claims.

1. BlackBerry Development Environment with Simulator

Before June 10, 2004, Research In Motion UK Limited developed, invented, marketed, offered for sale, sold, publicly used, and/or made publicly known the BlackBerry Development Environment with included Simulator (“BB Dev. Environment with Simulator”). Additionally, BB Dev. Environment with Simulator therefore qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(a), (b), and (g)(2). BB Dev. Environment with Simulator anticipates and/or renders obvious 1–3, 26, 37, and 45–50 of the ’678 Patent, claims 1–3, 8–12 of the ’864 Patent, and claims 1–3 of the ’192 Patent. The claim chart attached as Exhibit 1 provides representative, non-limiting examples of where BB Dev. Environment with Simulator discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that BB Dev. Environment with Simulator does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of BB Dev. Environment with Simulator alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify BB Dev. Environment with Simulator with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

2. Binder

U.S. Patent Application No. 10/340,348 (“Binder”) was filed on January 9, 2003. Binder was published as U.S. Publication No. 2003/0156549 on August 21, 2003. Binder qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(a), (b), and (e). Binder anticipates and/or renders obvious all Asserted Claims. The claim chart attached as Exhibit 2 provides representative, non-limiting examples of where Binder discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that Binder does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of Binder alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Binder with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

3. mVerify WTS

Before June 10, 2004, mVerify developed, invented, marketed, offered for sale, sold, publicly used, and/or made publicly known the mVerify Wireless Testing System (“mVerify WTS”). mVerify WTS qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(a), (b), and (g)(2). mVerify WTS anticipates and/or renders obvious all Asserted Claims. The claim chart attached as Exhibit 3 provides representative, non-limiting examples of where mVerify WTS discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that mVerify WTS does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of mVerify WTS alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify mVerify WTS with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

4. Brennan

U.S. Patent Application No. 11/136,986 (“Brennan”) was filed on May 25, 2005 and published as U.S. Publication No. 2006/0282247 on December 14, 2006. Brennan qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(e). Brennan anticipates and/or renders obvious all asserted claims. The claim chart attached as Exhibit 4 provides representative, non-limiting examples of where Brennan discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that Brennan does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of Brennan alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Brennan with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

5. GATE II / MATE

Ericsson’s Global Application Test Environment II / Mobile Application Test Environment (“GATE II / MATE”) was a prior art system widely available and used at least by mid-2002, as described in the various publications and documents cited herein and in the attached claim charts, including *Mobile Internet—An industry-wide paradigm shift?* (“Andersson 1999”), *An Experience in Evaluating Publish/Subscribe Services in a Wireless Network* (“Caporuscio 2002”), *GPRS and 3G Wireless Applications* (“Andersson 2001”), GATE II/MATE Overview, and the MATE User Manual. GATE II / MATE qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(a), (b), and (g)(2). GATE II / MATE anticipates and/or renders obvious at least claims 1–3, 26, 37, and 45–50 of the ’678 Patent, claims 1–3, 8–12 of the ’864 Patent, and claims 1–3 of the ’192 Patent. The claim chart attached as Exhibit 5 provides representative, non-limiting examples of where GATE II / MATE discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that GATE II / MATE does not anticipate

any Asserted Claim, such Asserted Claim would be obvious in view of GATE II / MATE alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify GATE II / MATE with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

6. El Husseini

U.S. Patent Application No. 10/691,822 (“El Husseini”) was filed on October 23, 2003. El Husseini was published as U.S. Publication No. 2005/0090243 on April 28, 2005. El Husseini qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(a) and (e). El Husseini anticipates and/or renders obvious at least claims 1–3, 26, 37, and 45–50 of the ’678 Patent, claims 1–3, 8–12 of the ’864 Patent, and claims 1–3 of the ’192 Patent. The claim chart attached as Exhibit 6 provides representative, non-limiting examples of where El Husseini discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that El Husseini does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of El Husseini alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify El Husseini with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

7. Kounik

U.S. Patent Application No. 10/420,970 (“Kounik”) was filed on April 22, 2003. Kounik was published as U.S. Publication No. 2004/0040010 on February 26, 2004. Kounik qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(a), (b), and (e). Kounik anticipates and/or renders obvious at least claims 1–3, 26, 37, and 45–50 of the ’678 Patent, claims 1–3, 8–12 of the ’864 Patent, and claims 1–3 of the ’192 Patent. The claim chart attached as Exhibit 7 provides representative, non-limiting examples of where Kounik discloses, either expressly or

inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that Kounik does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of Kounik alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Kounik with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

8. Linton

U.S. Patent Application No. 09/823,789 (“Linton”) was filed on March 30, 2001. Linton was published as U.S. Publication No. 2003/0045298 on March 6, 2003. Linton qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(a), (b), and (e). Linton anticipates and/or renders obvious at least claims 1–3, 26, 37, and 45–50 of the ’678 Patent, claims 1–3, 8–12 of the ’864 Patent, and claims 1–3 of the ’192 Patent. The claim chart attached as Exhibit 8 provides representative, non-limiting examples of where Linton discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that Linton does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of Linton alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Linton with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

9. Ottinger

U.S. Patent Application No. 11/021,172 (“Ottinger”) was filed on December 23, 2004 and published as U.S. Publication No. 2006/0140125 on June 29, 2006. Ottinger qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(e). Ottinger anticipates and/or renders obvious at least claims 1–3, 26, 37, and 45–50 of the ’678 Patent, claims 1–3, 8–12 of the ’864 Patent, and claims 1–3 of the ’192 Patent. The claim chart attached as Exhibit 9 provides representative, non-limiting examples of where Ottinger discloses, either expressly or inherently,

each element, thereby anticipating those claims. To the extent Plaintiffs assert that Ottinger does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of Ottinger alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Ottinger with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

10. Windred 456

UK Patent Application No. GB 0303249.7 (“Windred 456”) was filed on February 12, 2003. Windred 456 was published as UK Publication No. GB 2398456 on August 18, 2004. Windred 456 qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(a) and (e). Windred 456 anticipates and/or renders obvious at least claims 1–3, 26, 37, and 45–50 of the ’678 Patent, claims 1–3, 8–12 of the ’864 Patent, and claims 1–3 of the ’192 Patent. The claim chart attached as Exhibit 10 provides representative, non-limiting examples of where Windred 456 discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that Windred 456 does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of Windred 456 alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Windred 456 with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

11. Shunra Stratus

The Shunra Stratus Product was developed, invented, marketed, made publicly known, offered for sale, sold, publicly used, and/or made by Shunra Software Ltd. before June 10, 2004. The Shunra Stratus Product qualifies as prior art to the Asserted Patents under at least 35 U.S.C. §§ 102(a), (b), and (g)(2). The Shunra Stratus Product anticipates and/or renders obvious claims 1–3, 26, 37, and 45–50 of the ’678 Patent; claims 1–3, and 8–12 of the ’864 Patent, and claims 1–

3 of the '192 Patent. The claim chart attached as Exhibit 11 provides representative, non-limiting examples of where the Shunra Stratus Product discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that the Shunra Stratus Product does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of the Shunra Stratus Product alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify the Shunra Stratus Product with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

12. Shunra Storm

The Shunra Storm Product was developed, invented, marketed, made publicly known, offered for sale, sold, publicly used, and/or made by Shunra Software Ltd. before June 10, 2004. The Shunra Storm Product qualifies as prior art to the Asserted Patents under at least 35 U.S.C. §§ 102(a), (b), and (g)(2). The Shunra Storm Product anticipates and/or renders obvious claims 1–3, 26, 37, and 45–50 of the '678 Patent; claims 1–3, and 8–12 of the '864 Patent, and claims 1–3 of the '192 Patent. The claim chart attached as Exhibit 12 provides representative, non-limiting examples of where the Shunra Storm Product discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that the Shunra Storm Product does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of the Shunra Storm Product alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify the Shunra Storm Product with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

13. Shunra Cloud

The Shunra Cloud Product was developed, invented, marketed, made publicly known, offered for sale, sold, publicly used, and/or made by Shunra Software Ltd. before June 10, 2004. The Shunra Cloud Product qualifies as prior art to the Asserted Patents under at least 35 U.S.C. §§ 102(a), (b), and (g)(2). The Shunra Cloud Product anticipates and/or renders obvious claims 1–3, 26, 37, and 45–50 of the '678 Patent; claims 1–3, and 8–12 of the '864 Patent, and claims 1–3 of the '192 Patent. The claim chart attached as Exhibit 13 provides representative, non-limiting examples of where the Shunra Cloud Product discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that the Shunra Cloud Product does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of the Shunra Cloud Product alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify the Shunra Cloud Product with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

14. Shunra Storm + LoadRunner

The Storm-LoadRunner System was marketed, offered for sale, sold, publicly used, and/or made publicly known before June 10, 2004. The Storm-LoadRunner System qualifies as prior art to the Asserted Patents under at least 35 U.S.C. §§ 102(a), (b), and (g)(2). The Storm-LoadRunner System anticipates and/or renders obvious claims 1–3, 26, 37, and 45–50 of the '678 Patent; claims 1–3, and 8–12 of the '864 Patent, and claims 1–3 of the '192 Patent. The claim chart attached as Exhibit 14 provides representative, non-limiting examples of where the Storm-LoadRunner System discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that the Storm-LoadRunner System does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of the Storm-LoadRunner System alone

and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify the Storm-LoadRunner System with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

15. BREW

BREW was a prior art system widely available and used in the early 2000s, as described in the various publications cited herein, including U.S. Patent No. 7,877,247 to Nahata et al. (“Nahata”), the BREW 1.0 API, and “Software Development for the Qualcomm BREW Platform” (collectively, “BREW”). These references were all published or filed in the early 2000s, and they therefore qualify as written prior art and descriptions of system prior art under at least 35 U.S.C. § 102(a), (b), and (e). BREW anticipates and/or renders obvious all Asserted Claims. The claim chart attached as Exhibit 18 provides representative, non-limiting examples of where BREW discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that BREW does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of BREW alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify BREW with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

16. Palm OS

Palm OS was a prior art system widely available and used in the early 2000s, as described in various publications cited herein, including “Palm OS Programming” and “Palm OS Web Application.” These references were published in the early 2000s, and they therefore qualify as written prior art and descriptions of system prior art under at least 35 U.S.C. § 102(a) and (b). Palm OS anticipates and/or renders obvious all Asserted Claims. The claim chart attached as Exhibit 20 provides representative, non-limiting examples of where Palm OS discloses, either

expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that Palm OS does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of Palm OS alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Palm OS with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

17. J2ME

J2ME was a prior art system widely available and used in the early 2000s, as described in various publications cited herein, including “J2ME in a Nutshell,” “J2ME Game Programming,” the J2ME User Guide (v2.1), and the J2ME User Guide (v.2.2). These references were published in the early 2000s, and they therefore qualify as written prior art and descriptions of system prior art under at least 35 U.S.C. § 102(a) and (b). J2ME anticipates and/or renders obvious all Asserted Claims. The claim chart attached as Exhibit 22 provides representative, non-limiting examples of where J2ME discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that J2ME does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of J2ME alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify J2ME with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

18. Sakamoto

U.S. Patent Application No. 11/103,471 to Sakamoto (“Sakamoto”) was filed on April 12, 2005, was published on August 18, 2005, and it claims priority to an application filed on December 18, 2002. Sakamoto qualifies as prior art to the Asserted Patents under at least 35 U.S.C. § 102(e). Sakamoto anticipates and/or renders obvious claims 20 and 29 of the ’864 Patent. The claim chart

attached as Exhibit 27 provides representative, non-limiting examples of where Sakamoto discloses, either expressly or inherently, each element, thereby anticipating those claims. To the extent Plaintiffs assert that Sakamoto does not anticipate any Asserted Claim, such Asserted Claim would be obvious in view of Sakamoto alone and/or in view of the knowledge of one of ordinary skill in the art, and it would have been obvious to combine or modify Sakamoto with concepts from other prior art, including in the combinations identified in Appendices A and B1–B5, to achieve the claimed inventions.

B. Obviousness Combinations

The primary references identified above, as further described in the Exhibits, each disclose, either expressly or inherently, every element of the Asserted Claims, thereby anticipating those claims, and alone and/or in view of the knowledge of one of ordinary skill in the art render obvious each of those claims as well. To the extent Plaintiffs contend that any primary reference does not anticipate or render obvious the Asserted Claims as set forth above, it would have been obvious to combine or modify the primary references with concepts from other prior art, as explained throughout these Invalidity Contentions. In particular, for each limitation of the Asserted Claims that Plaintiffs contend is not met by a particular primary reference, Defendants contend that the limitation (and claim as a whole) is obvious based on (1) a combination of that particular primary reference with other prior art references, as reflected in Appendix A (list of asserted combinations of prior art references charted with these Invalidity Contentions that render one or more claims obvious) and Appendices B1–B5 (motivations to combine for each obviousness combination listed in Appendix A) and below,⁶ and/or (2) a combination of that particular primary reference with the knowledge of one of ordinary skill in the art.

⁶ Appendices A and B1–B5 identify specific combinations of prior art references that render one or more of the Asserted Claims obvious, as well as motivations to combine each identified

In addition to the combinations set forth in Appendix A, to the extent any combination consisting of three references in Appendix A is alleged by Plaintiffs not to disclose the concept of emulating bandwidth availability as may be claimed in any Asserted Claim, it would have been obvious to further combine said combination with any one of the following charted references: GATE II / MATE, Shunra Storm, Guo, or Ottinger (“bandwidth references”). The motivations to combine said combination with any bandwidth reference are the same as those set forth in Appendix B-1 through B-5 to combine any one or two of the references within said combination with such bandwidth reference.

In addition to the combinations set forth in Appendix A, to the extent any combination consisting of three references in Appendix A is alleged by Plaintiffs not to disclose the concept of visualization of test parameters via one or more profile display windows as may be claimed in any Asserted Claim, it would have been obvious to further combine said combination with any one of the following charted references: J2ME, BB Dev. Environment with Simulator, BREW, or Palm OS (“visualization references”). The motivations to combine said combination with any visualization reference are the same as those set forth in Appendix B-1 through B-5 to combine any one or two of the references within said combination with such visualization reference.

In addition to the combinations set forth in Appendix A, to the extent any combination consisting of three references in Appendix A is alleged by Plaintiffs not to disclose the concept of scenarios that include scripts or virtual users as may be claimed in any Asserted Claim, it would have been obvious to further combine said combination with any one of the following charted references: Binder, mVerify, Shunra Storm, BB Dev. Environment with Simulator, or Ottinger

combination of prior art references. Exhibits 1 – 28 set forth how each prior art reference discloses each relevant claim element.

(“script references”). The motivations to combine said combination with any script reference are the same as those set forth in Appendix B-1 through B-5 to combine any one or two of the references within said combination with such script reference.

In addition to the combinations set forth in Appendix A, to the extent any combination consisting of three references in Appendix A is alleged by Plaintiffs not to disclose the concept of utilizing real-world—including geographic-based—network profiles/characteristics as may be claimed in any Asserted Claim, it would have been obvious to further combine said combination with any one of the following charted references: Shunra Storm, Linton, Windred 457, or Aoyama (“real-world reference(s)"). The motivations to combine said combination with any real-world reference are the same as those set forth in Appendix B-1 through B-5 to combine any one or two of the references within said combination with such real-world reference.

Defendants do not yet have the benefit of Plaintiffs’ positions regarding the prior art, including what element(s), if any, Plaintiffs contend are not disclosed by each prior art reference, whether Plaintiffs contend that a reference is not in fact prior art, and whether Plaintiffs contend that a person of ordinary skill in the art (“POSA”) would not be motivated to combine specific references. Defendants reserve the right to supplement these obviousness positions (including identifying additional prior art combinations and the associated reasons to combine) in view of such positions and/or as discovery in the case, including expert discovery, progresses.

The information discussed in the prior art raised in these Invalidity Contentions forms the background knowledge of a person of ordinary skill in the art at the time the Asserted Patents were filed and would have been used in determining whether and how to combine references to achieve

the claimed invention(s), as discussed herein.⁷ Indeed, the existence, nature, and content of each prior art reference, including the prior art references cited herein, provide further evidence regarding the knowledge of a person of ordinary skill in the art at the relevant time. Defendants expressly reserve the right to rely on each of the prior art references, systems, concepts, and technologies discussed in these Invalidity Contentions, including to demonstrate that a particular claim element was known at the time of the Asserted Patents to a person of ordinary skill in the art, to show that the differences between a claimed invention and a prior art reference would have been obvious to a person of ordinary skill in the art, and to establish that a person of ordinary skill in the art would have been motivated to combine teachings of one or more references to achieve a claimed invention.

A patentee bears the burden of production with respect to evidence of secondary considerations of non-obviousness. *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018). As of the date of these Invalidity Contentions, Plaintiffs have not identified any secondary considerations of non-obviousness. Defendants reserve all rights to respond to any secondary considerations of non-obviousness raised by Plaintiffs, including by updating, modifying, and/or adding to these Invalidity Contentions. Defendants are not aware of any unexpected results (none is mentioned in the Asserted Patents or their file histories), long felt need, commercial success (or any nexus to any allegedly successful commercial embodiment), or awards for the Asserted Patents. Indeed, as shown in these Invalidity Contentions, many other companies and individuals described, built, and/or patented the exact same concepts in the Asserted Patents before Plaintiffs ever did. Even where others' inventions occurred at approximately the same time as the alleged

⁷ See *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (stating that “the knowledge [of a person of ordinary skill in the art] is part of the store of public knowledge that must be consulted when considering whether a claimed invention would have been obvious”).

inventions in the Asserted Patents, such simultaneous invention further demonstrates the obviousness of the Asserted Patents.

VI. P.R. 3-3(c) – CLAIM CHARTS

The attached claim charts (Exhibits 1–28) are based, in whole or in part, on Plaintiffs' asserted theories of infringement in this case, to the extent discernible from Plaintiffs' Infringement Contentions. As an initial matter, all portions of each prior art reference cited in each of the attached claim charts are relied upon to support the disclosure of each patent claim limitation, as all portions provide general support. Representative descriptions and supporting citations are nevertheless provided, but are merely exemplary; they do not necessarily reflect every instance where a particular claim term or claim limitation may be disclosed in or taught by the prior art reference. References to figures or drawings refer to the figures/drawings themselves, as well as to any accompanying text or text necessary to understand the figures or drawings. References to text refers to the text itself, as well as the accompanying figures or drawings that accompany the text. Defendants reserve the right to rely on additional, or different, portions of the prior art references, other publications and expert testimony to establish what these references would have taught one of ordinary skill in the art, or in what manner they would have motivated a particular combination of references. Moreover, in certain instances, representative documents for certain prior art systems are cited, but, again, are merely exemplary; they do not necessarily reflect or include every document relating to the prior art system that exists and that discloses or teaches a particular claim term or claim limitation. Defendants reserve the right to rely on any and all documents that describe or relate to prior art systems, including relying on the system itself. Defendants also reserve the right to rely on the testimony of the authors, named inventors, or anyone else with knowledge of the prior art references and systems identified herein, as well as expert testimony regarding any such references or systems.

VII. P.R. 3-3(d) – INVALIDITY UNDER 35 U.S.C. § 112

Defendants provide the following grounds for invalidity under 35 U.S.C. § 112, ¶¶ 1–2.

Defendants' investigation of the Asserted Patents is ongoing, and Defendants reserve the right to amend or supplement these disclosures based on further investigation and in a manner consistent with the Federal Rules of Civil Procedure, the Local Patent Rules for the Eastern District of Texas, and the Scheduling Order, or otherwise in accordance with any order or direction of this Court or agreement of the parties. Further, Plaintiffs' Infringement Contentions fail to provide sufficient detail to fully understand its proposed application of the Asserted Claims, and Defendants reserve the right to assert additional grounds for invalidity under 35 U.S.C. § 112 in response to Plaintiffs' claim interpretations. Defendants also reserve the right to supplement, modify, or otherwise amend these grounds for invalidity under 35 U.S.C. § 112 based on the Court's claim construction rulings or opinions or the parties' positions or arguments taken in connection with the claim construction process.

Defendants identify claims below that are invalid under 35 U.S.C. § 112, which Defendants will more fully address as part of claim construction.⁸ Defendants reserve the right to provide additional explanation and/or argument for their Invalidity Contentions under Section 112, including, for example, based on expert testimony, or to account for any changes in the law concerning invalidity under 35 U.S.C. § 112.

A. Indefiniteness

The Asserted Claims are invalid as set forth below under 35 U.S.C. § 112, ¶ 2 for failing to particularly point out and distinctly claim the subject matter which the applicants regard as the

⁸ Any dependent claim is invalid if it depends, directly or indirectly, on another claim that is invalid under 35 U.S.C. § 112.

alleged invention. For example, the scope of the following claim terms is not reasonably certain, rendering the Asserted Claims in which they appear (and any claims depending therefrom) invalid as indefinite.

| Phrase | Asserted Claims | Basis for Indefiniteness |
|--|--|--|
| simultaneously visually emulate / simultaneously visually simulate | '192 Patent, claim 1; all other asserted claims by dependency '678 Patent, claims 1, 26, 37, 45; all other asserted claims by dependency | The specification does not provide sufficient guidance regarding the scope of these phrases and what it means to “simultaneously visually emulate” or “simultaneously visually simulate.” A POSA would not understand with reasonable certainty what this claim would mean. |
| Network characteristics indicative of performance of the mobile device when executing the application | '192 Patent, claim 1; all other asserted claims by dependency | The specification does not provide sufficient guidance regarding the scope of this phrase and what qualifies as “network characteristics indicative of performance of the mobile device when executing the application.” The specification of the '192 Patent does not sufficiently disclose characteristics of the network that indicate performance of a mobile device. For example, Figure 12 shows a “pull down list” of “network characteristics” that includes scripted events, consumer events, and incoming events. The specification further lists examples of the scripted events, consumer events, and incoming events. 12:4–10; <i>see also</i> 13:8–10 (“[T]he user utilizes lists 1202, 1204 and 1206 of window 1200 to specify network characteristics for simulation by simulator 810). A POSA would not find this sufficient to understand the scope of the claim. |

| Phrase | Asserted Claims | Basis for Indefiniteness |
|--|--|---|
| A plurality of network characteristics indicative of performance of the mobile device when executing the application | '864 Patent, claim 1; all other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this phrase and what qualifies as “a plurality of network characteristics indicative of performance of the mobile device when executing the application.” The specification of the ’864 Patent does not sufficiently disclose characteristics of the network that indicate performance of a mobile device. For example, Figure 9 shows a “pull down list” of “network characteristics” that includes scripted events, consumer events, and incoming events. The specification further lists examples of the scripted events, consumer events, and incoming events. 11:52–58. A POSA would not find this sufficient to understand the scope of the claim. |
| Characteristics, indicative of performance, for each of the mobile devices / Characteristics indicative of performance of each said mobile device | '864 Patent, claims 20, 29 | The specification does not provide sufficient guidance regarding the scope of these phrases and what qualifies as “characteristics, indicative of performance, for each of the mobile devices” or “characteristics indicative of performance of each said mobile device.” The specification of the ’864 Patent does not sufficiently disclose characteristics that indicate performance of a mobile device. For example, Figure 9 shows a “pull down list” of “network characteristics” that includes scripted events, consumer events, and incoming events. The specification further lists examples of the scripted events, consumer events, and incoming events. 11:52-58. A POSA would not find this sufficient to understand the scope of the claim. |
| A plurality of operator network characteristics indicating at least bandwidth availability indicative of performance of the mobile device when executing the application | '678 Patent, claims 1, 26, 37, 45; all other asserted claims by dependency | The specification does not provide sufficient guidance regarding the scope of this phrase and what qualifies as “a plurality of network characteristics indicating at least bandwidth availability indicative of performance of the mobile device when executing the application.” The specification does not sufficiently disclose operator network characteristics, much less operator network characteristics indicating at least bandwidth availability indicative of performance of the mobile device when executing the application. A POSA would not understand with reasonable certainty what this claim would be. |

| Phrase | Asserted Claims | Basis for Indefiniteness |
|--|--|--|
| Network connection state encountered by the mobile device | '192 Patent, claim 1; all other asserted claims by dependency | The specification does not provide sufficient guidance regarding the scope of this term and what qualifies as a “network connection state encountered by the mobile device.” A POSA would not understand with reasonable certainty what this claim would mean. |
| Network profiles from a plurality of geographical locations | '864 Patent, claim 2; any other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this term and what qualifies as “network profiles from a plurality of geographical locations.” A POSA would not understand with reasonable certainty what this claim would mean. |
| Real-world mobile network profiles | '678 Patent, claim 45; any other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this term and what qualifies as “real-world mobile network profiles.” A POSA would not understand with reasonable certainty what this claim would mean. |
| simulate a network connection state encountered by the mobile device | '192 Patent, claim 1; any other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this phrase. A POSA would not understand with reasonable certainty what this claim would mean. |
| testing how well mobile content performs on the mobile device | '192 Patent, claim 2; any other asserted claims that are dependent '678 Patent, claim 2; any other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this phrase. A POSA would not understand with reasonable certainty what this claim would mean. |
| performance of either the application, or the network, or both | '864 Patent, claim 12; any other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this phrase. A POSA would not understand with reasonable certainty what this claim would mean. |

| Phrase | Asserted Claims | Basis for Indefiniteness |
|---|--|---|
| either application performance, or network performance | '678 Patent, claim 26; any other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this phrase. A POSA would not understand with reasonable certainty what this claim would mean. |
| real-world mobile network profiles captured by one or more networks | '678 Patent, claim 47; any other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this phrase. A POSA would not understand with reasonable certainty what this claim would mean. |
| import real-world mobile network profiles from geographical locations worldwide | '678 Patent, claim 49; any other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this phrase. A POSA would not understand with reasonable certainty what this claim would mean. |
| discover and import network conditions from geographical locations worldwide | '678 Patent, claim 50; any other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this phrase. A POSA would not understand with reasonable certainty what this claim would mean. |
| Connection simulations | '192 Patent, claim 2; any other asserted claims that are dependent '678 Patent, claim 2; any other asserted claims that are dependent | The specification does not provide sufficient guidance regarding the scope of this phrase and what qualifies as "connection simulations." A POSA would not understand with reasonable certainty what this claim would mean. |

In view of the specifications and file histories of the Asserted Patents, the above terms (and any other similar terms in any of the Asserted Claims) fail to inform those skilled in the art about the scope of the invention with reasonable certainty. *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014) (holding that "a patent is invalid for indefiniteness if its claims, read in light

of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention”). As such, the Asserted Claims identified above are invalid for being indefinite. *See id.* Defendants also reserve the right to seek a ruling of indefiniteness on any shorter terms or phrases within the items in the above list, or of longer terms or phrases.

B. Lack of Written Description and/or Enablement

The Asserted Claims are invalid for failure to comply with the written description or enablement requirements of Section 112, ¶ 1. For example, to the extent any Asserted Claim is interpreted to encompass any of the below concepts, the specifications of the Asserted Patents do not provide sufficient written description or enablement of such concept, rendering the Asserted Claims of the patents in which they appear invalid:

1. Network connection state encountered by the mobile device (Cl. 1, '192 Patent)

With respect to a network connection state encountered by the mobile device, the specification of the '192 Patent fails to provide sufficient written description or enablement. Claim 1 of the '192 Patent requires that the “software authoring interface” be configured to “simultaneously visually emulate . . . a plurality of network characteristics indicative of performance of the mobile device,” and “*further* configured to simulate a network connection state encountered by the mobile device.” '192 Patent, claim 1 (emphasis added). The specification of the '192 Patent, however, provides insufficient guidance as to what a “network connection state” is.

To the extent Plaintiffs contend that this term recited in the Asserted Claims is not described in the prior art, or that this term that Plaintiffs allege is in the Accused Systems is not described in the prior art or meets these claim limitations, the claims are invalid for lacking

sufficient written description and/or enablement. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The Asserted Claims therefore do not meet the written description or enablement requirements of 35 U.S.C. § 112 for at least the reason that the patent specification does not provide support for the full scope of the claims to the extent Plaintiffs assert that the claims are broad enough to cover Defendants' products. *See LizardTech*, 424 F.3d at 1345. The patent specification, viewed in the context of Plaintiffs' Infringement Contentions, would not enable a person of ordinary skill in the art to practice the alleged invention without undue experimentation. Also, viewed in the context of Plaintiffs' Infringement Contentions, a person of ordinary skill in the art would not understand the named inventor to be in possession of the purported invention. *See id.* Thus, the claims are invalid under the first paragraph of 35 U.S.C. § 112 for lack of written description and lack of enablement. *See id.*; *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010) (en banc); *Strick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

2. Plurality of network characteristics indicative of performance of the mobile device when executing the application ('192 Patent)

With respect to the plurality of network characteristics indicative of performance of the mobile device when executing the application, the specification of the '192 Patent fails to provide sufficient written description or enablement because the Applicant changed the scope of the claims in an amendment made after the notice of allowance.

During prosecution, the Examiner rejected the claims on double patenting grounds over U.S. Patent No. 8,332,203, finding that the claims were "not patentably distinct because they [we]re all related to a method and system for emulating an application executing in real time in a mobile device." Non-Final Rejection at 3–4 (Nov. 11, 2013). The Applicant filed a terminal disclaimer and added claims 44–69 (now claims 1–16, 60–69), stating that "[s]upport for the new

claims can be found throughout the specification, including the figures and originally-filed claims. See, for example, Figures 1A, 8 to 13 and associated descriptions.” Resp. to Non-Final Rejection at 10 (Apr. 4, 2014). The Examiner allowed the claims. Notice of Allowance (July 17, 2014). However, post-allowance, the Applicant made the following amendment to original claim 44 (now claim 1):

A system for developing an application for a mobile device comprising:

a software authoring interface configured to simultaneously visually emulate, via one or more profile display windows, a plurality of network hardware characteristics indicative of performance of the mobile device when executing the application; wherein the software authoring interface is further configured to simulate a network connection state encountered by the mobile device.

Amendment After Allowance at 8 (Oct. 17, 2014). This amendment expands the scope of the claims beyond that which is supported by the specification.

The specification does not sufficiently describe “network characteristics” that indicate “performance of the mobile device when executing the application.” Rather, the specification describes the “network characteristics” as “scripted events (e.g., cell tower identification, service message, bandwidth, etc.), consumer events (e.g., checking email, checking messages, browsing network, available minutes, selecting images, etc.), and incoming events (e.g., phone calls, WAP Messages, receiving MMC, receiving SMS, etc.).” 12:3–20. None of these characteristics indicate performance of the mobile device as the claims require. Nor does the specification describe *how* any of the above characteristics would *indicate* performance of the mobile device. Without more, a POSA would not have understood with reasonable certainty how a network characteristic indicates performance of the mobile device.

Further, the specification does not sufficiently disclose an emulator that “simultaneously visually emulate[s], via one or more profile display windows, a plurality of network characteristics indicative of performance of the mobile device when executing the application,” which claim 1

requires. As shown by Figures 12 and 13, the user selects the “network characteristic” to simulate, which means the “network characteristic” must be a selected input used to evaluate the performance of the application. *See Figures 12, 13; see also 12:17–20* (“[T]he user may select ‘send message’ from list 1206 to evaluate the performance of application 104 while a message is received from the network.”). However, for the “network characteristics ” to be “simultaneous visually emulate[d]” “via one or more profile display windows” as the specification describes, a POSA would understand that the network characteristic must be an output. *See Figure 3; 8:39–56; see also Figures 9–12* (showing the same frame based display of profiled data). The specification of the ’192 Patent does not sufficiently support the scope of the post-issuance amendment and the Asserted claims are therefore invalid for lacking sufficient written description and/or enablement.

To the extent Plaintiffs contend that this term recited in the Asserted Claims is not described in the prior art, or that this term that Plaintiffs allege is in the Accused Systems is not described in the prior art or meets these claim limitations, the claims are invalid for lacking sufficient written description and/or enablement. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The Asserted Claims therefore do not meet the written description or enablement requirements of 35 U.S.C. § 112 for at least the reason that the patent specification does not provide support for the full scope of the claims to the extent Plaintiffs assert that the claims are broad enough to cover Defendants’ products. *See LizardTech*, 424 F.3d at 1345. The patent specification, viewed in the context of Plaintiffs’ Infringement Contentions, would not enable a person of ordinary skill in the art to practice the alleged invention without undue experimentation. Also, viewed in the context of Plaintiffs’ Infringement Contentions, a person of ordinary skill in the art would not understand the named inventor to be in possession of the

purported invention. *See id.* Thus, the claims are invalid under the first paragraph of 35 U.S.C. § 112 for lack of written description and lack of enablement. *See id.; Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010) (en banc); *Strick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

3. Plurality of network characteristics indicative of performance of the mobile device when executing the application ('864 Patent)

With respect to the plurality of network characteristics indicative of performance of the mobile device when executing the application, the specification of the '864 Patent fails to provide sufficient written description or enablement because there is no support for the claims.

Like the '192 Patent, during prosecution, the Examiner rejected the claims of U.S. Appl. No. 14/084,321 on double patenting grounds over U.S. Patent No. 8,332,203, finding that the claims were “not patentably distinct because they [we]re all related for [sic] emulating an application playing on an application player in each of a plurality of mobile devices.” Non-Final Rejection at 3–4 (Nov. 19, 2014). The Applicant filed a terminal disclaimer and added claims 32–50 (now claims 1–19), stating that “[s]upport for the claims can be found throughout the specification, including the figures and originally-filed claims. See, for example, Figures 1A, 8 to 13 and associated descriptions.” Resp. to Non-Final Rejection at 11 (May 19, 2015). The newly added claim 32 provided that:

A system for testing an application for a mobile device comprising:

software configured to simulate, via one or more profile display windows, a plurality of network characteristics indicative of performance of the mobile device when executing the application; wherein the network characteristics are based on data of interaction with networks in non-simulate environments.

Resp. to Non-Final Office Action at 8 (May 19, 2015). There is, however, insufficient support in the specification for “network characteristics indicative of performance of the mobile device when executing the application.”

Moreover, to the extent Plaintiffs contend that this term in the Asserted Claims is not described in the prior art, or that this term that Plaintiffs allege is in the Accused Systems is not described in the prior art or meets these claim limitations, the claims are invalid for lacking sufficient written description and/or enablement. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The Asserted Claims therefore do not meet the written description or enablement requirements of 35 U.S.C. § 112 for at least the reason that the patent specification does not provide support for the full scope of the claims to the extent Plaintiffs assert that the claims are broad enough to cover Defendants' products. *See LizardTech*, 424 F.3d at 1345. The patent specification, viewed in the context of Plaintiffs' Infringement Contentions, would not enable a person of ordinary skill in the art to practice the alleged invention without undue experimentation. Also, viewed in the context of Plaintiffs' Infringement Contentions, a person of ordinary skill in the art would not understand the named inventor to be in possession of the purported invention. *See id.* Thus, the claims are invalid under the first paragraph of 35 U.S.C. § 112 for lack of written description and lack of enablement. *See id.*; *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010) (en banc); *Strick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

4. Operator network characteristics including at least bandwidth availability indicative of performance of the mobile device when executing the application ('678 Patent)

With respect to the operator network characteristics including at least bandwidth availability indicative of performance of the mobile device when executing the application, the specification of the '678 Patent fails to provide sufficient written description or enablement. During prosecution of the '678 Patent, Applicant amended claim 1 as follows:

A system for testing an application for a mobile device comprising:

a software testing interface configured to simultaneously visually simulate, via one or more profile display windows, a plurality of operator network characteristics including at least bandwidth availability indicative of performance of the mobile device when executing the application; wherein the bandwidth availability is based at least in part on bandwidth data predetermined from interactions between one or more mobile devices and at least one operator network software is further configured to simulate a network connection state encountered by the mobile device.

Resp. to Non-Final Office Action at 3 (Nov. 17, 2017). There is, however, insufficient support in the specification for “operator network characteristics including at least bandwidth availability indicative of performance of the mobile device when executing the application.”

Moreover, to the extent Plaintiffs contend that this term in the Asserted Claims is not described in the prior art, or that this term that Plaintiffs allege is in the Accused Systems is not described in the prior art or meets these claim limitations, the claims are invalid for lacking sufficient written description and/or enablement. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The Asserted Claims therefore do not meet the written description or enablement requirements of 35 U.S.C. § 112 for at least the reason that the patent specification does not provide support for the full scope of the claims to the extent Plaintiffs assert that the claims are broad enough to cover Defendants’ products. *See LizardTech*, 424 F.3d at 1345. The patent specification, viewed in the context of Plaintiffs’ Infringement Contentions, would not enable a person of ordinary skill in the art to practice the alleged invention without undue experimentation. Also, viewed in the context of Plaintiffs’ Infringement Contentions, a person of ordinary skill in the art would not understand the named inventor to be in possession of the purported invention. *See id.* Thus, the claims are invalid under the first paragraph of 35 U.S.C. § 112 for lack of written description and lack of enablement. *See id.; Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010) (en banc); *Strick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

5. The Alleged Emulator (Cl. 10–12, 20, 29 '864 Patent; Cl. 1–3 '192 Patent)

With respect to the claimed emulator, there is inadequate written description support for the emulator to the extent the claimed emulator is not an emulator that was already known in the art. Nothing in the specification sufficiently teaches the details of how any supposed novel emulator would have been built, and, as such, there is inadequate written support for any such emulator.

Moreover, to the extent Plaintiffs contend that the emulator recited in the Asserted Claims is not described in the prior art, or that the emulator that Plaintiffs allege is in the Accused Systems is not described in the prior art or meets these claim limitations, the claims are invalid for lacking sufficient written description and/or enablement. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The Asserted Claims therefore do not meet the written description or enablement requirements of 35 U.S.C. § 112 for at least the reason that the patent specification does not provide support for the full scope of the claims to the extent Plaintiffs assert that the claims are broad enough to cover Defendants' products. *See LizardTech*, 424 F.3d at 1345. The patent specification, viewed in the context of Plaintiffs' Infringement Contentions, would not enable a person of ordinary skill in the art to practice the alleged invention without undue experimentation. Also, viewed in the context of Plaintiffs' Infringement Contentions, a person of ordinary skill in the art would not understand the named inventor to be in possession of the purported invention. *See id.* Thus, the claims are invalid under the first paragraph of 35 U.S.C. § 112 for lack of written description and lack of enablement. *See id.; Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010) (en banc); *Strick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

6. The Alleged Simulator ('678 Patent; Cl. 1–3, 8–12 '864 Patent; 1–3 '192 Patent)

With respect to the claimed simulator, there is inadequate written description support for the simulator to the extent the claimed simulator is not a simulator that was already known in the art. Nothing in the specification sufficiently teaches the details of how any supposed novel simulator would have been built, and, as such, there is inadequate written support for any such simulator.

Moreover, to the extent Plaintiffs contend that the simulator recited in the Asserted Claims is not described in the prior art, or that the simulator that Plaintiffs allege is in the Accused Systems is not described in the prior art or meets these claim limitations, the claims are invalid for lacking sufficient written description and/or enablement. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The Asserted Claims therefore do not meet the written description or enablement requirements of 35 U.S.C. § 112 for at least the reason that the patent specification does not provide support for the full scope of the claims to the extent Plaintiffs assert that the claims are broad enough to cover Defendants' products. *See LizardTech*, 424 F.3d at 1345. The patent specification, viewed in the context of Plaintiffs' Infringement Contentions, would not enable a person of ordinary skill in the art to practice the alleged invention without undue experimentation. Also, viewed in the context of Plaintiffs' Infringement Contentions, a person of ordinary skill in the art would not understand the named inventor to be in possession of the purported invention. *See id.* Thus, the claims are invalid under the first paragraph of 35 U.S.C. § 112 for lack of written description and lack of enablement. *See id.*; *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010) (en banc); *Strick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

7. Software authoring or testing interface ('678 Patent, '864 Patent, '192 Patent)

To the extent Plaintiffs contend that the alleged interface of the accused Micro Focus products as set forth in Plaintiffs' infringement contentions is the claimed software authoring interface or software testing interface, the Asserted Claims are invalid for lacking sufficient written description and/or enablement, as the patent specification does not provide sufficient support for the full scope of the claims. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The patent specification, viewed in the context of Plaintiffs' Infringement Contentions, would not enable a person of ordinary skill in the art to practice the alleged invention without undue experimentation. Also, viewed in the context of Plaintiffs' Infringement Contentions, a person of ordinary skill in the art would not understand the named inventor to be in possession of the purported invention. *See id.* Thus, the claims are invalid under the first paragraph of 35 U.S.C. § 112 for lack of written description and lack of enablement. *See id.; Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010) (en banc); *Strick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

8. Visually emulating or visually simulating and profile display windows ('678 Patent, '864 Patent, '192 Patent)

To the extent Plaintiffs contend that the alleged menu selection in the accused Micro Focus products as set forth in Plaintiffs' infringement contentions is the claimed visual emulation or visual simulation or claimed profile display windows, the Asserted Claims are invalid for lacking sufficient written description and/or enablement, as the patent specification does not sufficient provide support for the full scope of the claims. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The patent specification, viewed in the context of Plaintiffs' Infringement Contentions, would not enable a person of ordinary skill in the art to practice the alleged invention without undue experimentation. Also, viewed in the context of Plaintiffs'

Infringement Contentions, a person of ordinary skill in the art would not understand the named inventor to be in possession of the purported invention. *See id.* Thus, the claims are invalid under the first paragraph of 35 U.S.C. § 112 for lack of written description and lack of enablement. *See id.; Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010) (en banc); *Strick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

9. Model (Cl. 20 and 29, '864 Patent)

To the extent Plaintiffs contend that Micro Focus Mobile Center as set forth in Plaintiffs' Infringement Contentions, or an emulator used therewith, is or provides the claimed model, the Asserted Claims are invalid for lacking sufficient written description and/or enablement, as the patent specification does not provide sufficient support for the full scope of the claims. *See LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). The patent specification, viewed in the context of Plaintiffs' Infringement Contentions, would not enable a person of ordinary skill in the art to practice the alleged invention without undue experimentation. Also, viewed in the context of Plaintiffs' Infringement Contentions, a person of ordinary skill in the art would not understand the named inventor to be in possession of the purported invention. *See id.* Thus, the claims are invalid under the first paragraph of 35 U.S.C. § 112 for lack of written description and lack of enablement. *See id.; Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351-52 (Fed. Cir. 2010) (en banc); *Strick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008).

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By: /s/ Mark N. Reiter

Mark N. Reiter
Lead Attorney
Texas State Bar No. 16759900
mreiter@gibsondunn.com
Ashbey N. Morgan
Texas State Bar No. 24106339
anmorgan@gibsondunn.com
GIBSON, DUNN & CRUTCHER LLP
2001 Ross Avenue, Suite 2100
Dallas, TX 75201-6912
Telephone: 214.698.3100
Facsimile: 214.571.2907

Jordan Bekier
jbekier@gibsondunn.com
GIBSON, DUNN & CRUTCHER LLP
333 South Grand Avenue
Los Angeles, CA 90071
Telephone: 213.229.7000
Facsimile: 213.229.7520

Andrew Robb
arobb@gibsondunn.com
GIBSON, DUNN & CRUTCHER LLP
1881 Page Mill Road
Palo Alto, CA 94304
Telephone: (650) 849-5334
Facsimile: (650) 849-5034

Neema Jalali
njalali@gibsondunn.com
GIBSON, DUNN & CRUTCHER LLP
555 Mission Street, Suite 3000
San Francisco, CA 94105
Telephone: 415.393.8200
Facsimile: 415.374.8409

Omar F. Amin
oamin@gibsondunn.com
GIBSON, DUNN & CRUTCHER LLP
1050 Connecticut Avenue, N.W.
Washington, DC 20036
Telephone: (202) 955-8500
Facsimile: (202) 467-0539

Attorneys for Defendants

CERTIFICATE OF SERVICE

I hereby certify that on December 20, 2019, a true and correct copy of the above and foregoing document has been served by electronic mail upon all counsel of record.

/s/ Mark Reiter

Mark Reiter